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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.
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09/409,613 10/01/99 CHRISTOFFERSON

A R09-99-091

EXAMINER

024033 TM02/0801
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PHAM, H	
ART UNIT	PAPER NUMBER

2172
DATE MAILED:

08/01/01

Please find below and/or attached an Office communication concerning this application or proceeding.

Commissioner of Patents and Trademarks

Office Action Summary

Application No.

09/409,613

Applicant(s)

CHRISTOFFERSON ET AL.

Examiner

Hung Pham

Art Unit

2172

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136 (a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-27 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-27 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claims ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are objected to by the Examiner.
- 11) ☐ The proposed drawing correction filed on ____ is: a) ☐ approved b) ☐ disapproved.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. § 119

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. ____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).

Attachment(s)

- 15) ☒ Notice of References Cited (PTO-892) 18) ☐ Interview Summary (PTO-413) Paper No(s) ____.
- 16) ☒ Notice of Draftsperson's Patent Drawing Review (PTO-948) 19) ☐ Notice of Informal Patent Application (PTO-152)
- 17) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) ____ 20) ☐ Other: ____.

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

2. Claims 1, 3-4, 10, 12-13, 19, and 21-22 are rejected under 35 U.S.C. 102(e) as being clearly anticipated by Nemes, U.S. Patent 5,893,120.

Regarding to claims 1, 10, and 19, Nemes teaches the process of storage and retrieval a record in a file system by using hash function to hashed the key (a unique identity of a record) to a value as the subscript of an array element, and the combination of hash table and linked list as the data structure to “determine whether there is a preexisting file in the file system having a name that maps, according to the function, to the same value to which the input file name maps, wherein two files that map to a same value according to the function are capable of having a same name” (see figure 3 and col. 5, lines 55-68).

Regarding to claims 3, 12, and 21, Nemes teaches the hash function will be able to “map the input file name to an integer value, and wherein the data structure includes an entry for each possible integer value capable of being generated from the hash function (see col. 4, lines 62-67, and col. 5, lines 1-5)”.

Regarding to claims 4, 13, and 22, Nemes teaches the process of the data structure "to determine whether there is a preexisting file comprises determining whether the entry for the integer value to which the input file name maps indicates the presence of one preexisting file mapping to the same integer value as the input file name" (see col. 5, lines 58-67 and col. 6, line 1).

3. Claims 1, 6-8, 10, 15-17, 19, and 24-26 are rejected under 35 U.S.C. 102(e) as being clearly anticipated by Schmuck et al., U.S. Patent 5,960,446.

Regarding to claims 1, 6, 10, 15, 19, 24, Schmuck et al. teaches method for processing an input file and other files in a file system by "applying a function to map the input file name to a value and processing a data structure to determine whether there is a preexisting file in the file system having a name that maps..., wherein two files that map to a same value according to the function are capable of having a same name" (col. 7, lines 15-25) and "applying the function to each file name in the system to map each file name to one value and indicating in the data structure, for each file name, that there is one preexisting file for the value to which the value to which the file name maps" (col. 7, lines 15-25).

Regarding to claims 7, 8, 16, 17, 25, and 26, Schmuck et al. teaches the process of "scanning each file in the system to determine if there is at least one preexisting file having the same name as the input file name (col. 9, lines 35-53)" in order to "add the input file as a new file to the file system if no preexisting file in the file system has the same name as the input file name" or reject otherwise (col. 9, lines 54-64).

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

6. Claims 2, 11, 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nemes [U.S. 5,893,120] in view of Cormen et al. in *Introduction to Algorithms* Copyright © 1990 by the Massachusetts Institute of Technology.

Regarding to claims 2, 11, 20, Nemes discloses the same subject matter as discussed in claims 1, 10, and 19 except for the "mapped-to values require fewer bits of storage than the file name". However, Cormen et al. teaches in one aspect of the hashing technique, is "to reduce the range of array indices that need to be handles" and "the storage requirements are correspondingly reduced" (page 222, line 9-12).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to apply the mapped-to values with fewer bits of storage than the

file name to Nemes' hashing technique to maximize the available storage capacity for storing file data.

7. Claims 5, 14, and 23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nemes [U.S. 5,893,120] in view of Main et al. in *Data Structure and other Objects using C++* Copyright © 1997 by Addison Wesley Longman.

Regarding to claims 5, 14, and 23, Nemes teaches the claimed subject matter as discussed above, except the data structure is just "a one-dimensional array and wherein each entry is capable of having one of two values" and the entry of the array will be set to "a first value if there is one preexisting file name in the file system that maps to the integer value for the entry...". However, according to Main et al., the technique of *hashing*, by using a one-dimensional array and a hash function that map the key value to an array index, also includes a process is called **open addressing**.

Open addressing requires the array be initialized by a value so that the process can test to see if an array position already contains a record. Main et al. further discloses: "if the key will always be a non-negative integer, the key field of each array element can be initialized to a negative number, perhaps -1" (page 547, lines 11-18). As long as the entry contains an initialized value, the process can determine the location, which does not contain an existing record.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to apply Main's technique to Nemes' method by using a data structure as "a one-dimensional array and wherein each entry is capable of having one of two values" to indicate the presence of one preexisting file.

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8. Claims 9, 18, and 27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Schmuck et al. U.S. Patent 5,960,446.

Regarding to claims 9, 18, and 27, Schmuck et al. discloses the subject matter as discussed in claims 1, 10, and 19. Schmuck et al. also teaches the process of "scanning each file in the system to determine if there is at least one preexisting file having the same name as the input file name" (col. 9, lines 35-52) in order to "add the input file as a new file to the file system if no preexisting file in the file system has the same name as the input file name" or reject otherwise (col. 9, lines 54-57). Schmuck does not explicitly teach updating a preexisting file. However, Schmuck et al. teaches that when a record already exists in the hash bucket, the lookup operation returns with a message "already exist". Thus, the lookup operation performs an update status in the existing record (col. 9, lines 36-60). It would have been obvious to a person having ordinary skill in the art at the time of applicants' invention to include the update operation in Schmuck's process in order to meet the users' requirement of replacing an existing file in the file system.

Conclusion
Contact Information

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Hung Pham whose telephone number is 703-305-3900. The examiner can normally be reached on Monday-Friday, 8:00 am – 4:30 pm.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kim Vu can be reached on (703) 305-4393. The fax phone numbers for the organization where this application or proceeding is assigned are 703-305-9731.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-305-3900.

hp
July 27, 2001



KIM VU
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2100